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ABSTRACT

The study sought to determine the relationships between work adjustment and selected personal, educational, vocational, and familial variables among 116 mentally retarded trainees from two vocational training programs in Taiwan. Findings included, among others: older trainees were more likely to accept rules/authority than younger workers; males were better than females in work tolerance; less supervision was required for trainees who had fewer handicapping conditions, were taller, were not overweight, and had more years of school experience; job training was more important to subjects who had fewer handicapping conditions than to those who had more; special class experiences in either elementary or junior high school were a positive factor in work adjustment; present income seemed to correlate closely with work adjustment; the lower the educational level of the trainee's father, the less supervision was required; individuals having more parent support may exhibit better teamwork and be more likely to accept rules; and the lower the family economic status, the more realistic were the individuals in their job goals. The best set of predictors for work adjustment was determined to be years of school, present income, and nature of present work environment. (Author/JDD)

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CORRELATES OF WORK ADJUSTMENT AMONG THE MENTALLY RETARDED

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ABSTRACT

The purpose of this study was to determine the relationships between work adjustment and the selected demographic factors including the personal, educational, vocational, and familial variables among the mentally retarded trainees.

The subjects of the present study consisted of 116 mentally retarded trainees from two vocational training programs in Taiwan, the Republic of China. The data on work adjustment and demographic factors were collected by the subjects' teachers using the Chinese version of work Adjustment Rating Form and the demographic information sheet. The data analysis approaches selected were the Pearson's product-moment correlation and multiple regression.

The conclusions drawn from the study are as follows:

1. The factors handicapping condition, years of school, elementary special class experience, junior high special class experience, nature of present work environment, present income, and parent support, respectively revealed a significant relationship to the variable of general work adjustment.

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2. The factors handicapping condition, height, years of school, junior high special class experience, present income, and father's education, respectively, significantly correlated with the variable amount of supervision required.

3. The factors years of school, elementary special class experience, junior high special class experience, nature of present work environment, present income, number of siblings, and family economic status, respectively, had a significant relationship to the variable realism of job goals.

4. The factors years of school, junior high special class experience, present income, and parent support, respectively, significantly correlated with the variable of teamwork.

5. The factors age, years of school, present income, and parent support, respectively, significantly correlated with the variable acceptance of rules/authority.

6. The factors sex, years of school, elementary special class experience, junior high special class experience, nature of present work environment, and present income, respectively, had a significant relationship to the variable of work tolerance.

7. A significant correlation was found between the factor of present income and the variable perseverance in work.

8. The factors weight, years of school, number of jobs, and parents' marriage status, respectively, significantly correlated with the variable of extent trainee seeks assistance.

9. The factors handicapping condition, elementary special class experience, present work experience, nature of present work environment, present income, and number of siblings, respectively, had a significant relationship to the variable importance attached to job training.

10. The factors of previous work experience and mother's education failed to have any statistically significant relationship to work adjustment.

11. The best set of factors to predict general work adjustment of

the mentally retarded in this study was the combination of the variables years of school, present income, and nature of present work environment.

INTRODUCTION

The ultimate aim of any educational and rehabilitative efforts for the mentally retarded should be to help them realize their vocational goals. The attainable goals may vary due to differences in characteristics and backgrounds of persons with mental retardation. However, the vocational potential of this population has been recognized by most, if not all, professionals in the field of special education and rehabilitation (Brolin, 1976; Ho. 1982). Special educators and rehabilitation counselors are concerned with work adjustment of the retardates in the process of vocational programming. Since favorable work adjustment is usually synonymous with employability of a person, the work adjustment research of the mentally retarded is essential for developing adequate vocational program for this disadvantaged group. If factors influencing work adjustment of the retardates could be well identified, the development of appropriate vocational programs should be easy to come true.

Efforts for study on work adjustment of mentally retarded people have been made by many investigators. A theory of work adjustment was developed by Dawis, Lofquist, and Weiss (1968) at the University of Minnesota. This theory is based on the proposition that successful work adjustment depends on the congruence between a person's work personality and his/her work environment. Many empirical studies were done in this area. Excellent summaries of the literature may be found in the work of Kolstoe (1961),Brolin (1976), and Chen (1985). Often conflicting results are reported by many researchers concerning the importance of specific factors on the work adjustment of mentally retarded people. The specific characteristics mentioned frequently as affecting the work adjustment or employability of this population are as follows.

Personal Factors

In the study of Reynolds and Stunkard (1960), age itself was not found to be a significant source of variance in employability. No relationship between age and employability was also found by Shafter (1957) and Neff (1959). In an examination of characteristics which discriminate between employed and not-employed mentally retarded males. Kolstoe (1961) found that the mean age of the employed group is somewhat less than the mean age of the unemployed group. He also pointed out that an optimum age for employment may be between 19 and the late twenties for the mentally retarded. THe study of Malgady and Barcher (1980) indicated that age correlated significantly with both concurrent and follow-up placement. Crain (1980) reported that age was found to be related to wage, i.e., the older the individual, the higher the wage.

According to the study of Malgady and Barcher (1980), sex was found to be related to both concurrent and follow-up placement of mentally retarded workers. However, the study of Crain (1980) indicated that there was no relationship between sex and wage in 130 educable mentally retarded graduates of special education. No relationship between work adjustment and sex among educable mentally retarded mainstreamed students was reported by Dietrich (1978).

The relationship of IQ to employability has been found to be equivocal. A positive relationship between IQ and employment success was reported by Abel (1940), Baller (1936), Phelps (1956), Reynolds and Stunkard (1960), as well as Malgady and Barcher (1980). However, McIntosh (1949), Kolstoe (1961), Crain (1980), and Melstrom (1982) could find no relationship.

The presence of a physical handicap was found to be a factor influencing vocational success of the mentally retarded in the reports of Michal-Smith (1950) and Rautman (1949). No such relationship was reported by Shafter (1957) and Neff (1959). Kolstoe (1961) also indicated that the mere presence of a defect did not materially affect employability.

Equivocal findings of the relationship of personal appearance to employability have likewise been reported. Baller (1936), Phelps (1956), and Kolstoe (1961) reported that personal appearance does affect employability. The finding of Shafter (1957) was unable to support.

Educational Factors

Several investigators (Shafter,1957; Greene, 1945; Cowan and Goldman, 1959; Dietrich, 1973) report that the number of years in school and academic achievement seem to have no effect on the employability of the mentally retarded. Kolstoe (1961) also reports no relationship between academic achievement and employment. However, he found that those mentally retarded subjects who spent a longer time in special classes were somewhat more successful in securing employment than those who had had no special class experience. Although Kolstoe (1961) could not find relationship between school performance and employment he insists that the ability to read and write may be a limiting factor in employment.

Vocational Factors

The finding that the care exercised in performing the work and the quality of the work done were essential in employment of retarded workers was found by Phelps (1956), Shafter (1957), and Neff (1959). In the study of Kolstoe (1961), he reported that the employed group was consistently superior to the unemployed group in tasks involving assembly, sorting, manipulation, packaging, and the use of hand tools. He also found the employed group was consistently superior in the understanding of the work, the quality of the work, and showing initiative in actual work situations. Schalock and Harper (1978) pointed out that the primary reasons for terminating employees who are mentally handicapped included working slowly and lack of initiative. Brickey, Browning, and campbell (1982) also supported the slow performance as the primary reason for the failure of placements. Margalit and Schuchman (1978) reported that the work-study program educable mentally retarded graduates were significantly more stable, satisfied, and adjusted than were the work-program graduates.

In the study of Fulton (1975), it was found that previous work history did not discriminate between the successful placement group of retarded adults and the unsuccessful one. No reports could be found in regard to the relationships between work adjustment and the variables present work experiences, number of jobs, and wage.

Familial Factors

Sibling rank in family was found by Greene (1945) as influencing the successful adjustment of the retarded group. This was not supported by Shafter (1957). In the study of Kolstoe (1961), he also reported that there was no difference in the employed and unemployed retardates in terms of the size of family, position or members in the family or other people living in the home.

The relationship between work adjustment and socioeconomic status was investigated by Shafter (1957), Abel (1940), Greene (1945), and Kolstoe (1961). The relationship was supported by Abel (1940) and Greene (1945). It does not exist in the studies of Shafter (1957) and Kolstoe (1961).

Family support was considered an important factor affecting the employment adjustment of the mentally retarded by Neff (1959) and Brolin and Wright (1971), but unfortunately very few studies were concerned with this area.

No published reports could be found on the relationship between work adjustment and the variables parental education and marriage status of parents in the mentally retarded population.

From the above review of literature, it is found that the relationships between work adjustment and personal, educational, vocational, and familial factors of persons with mental retardation were inconsistent. The purpose of this study was to further the investigation of the relationships between work adjustment and several selected demographic variables including the personal, educational, vocational, and familial factors of the mentally retarded. More specifically, this

study was designed to explore the following five questions:

1. What are the relationships between work adjustment and the personal factors age, sex, handicapping condition, height, and weight?

2. What are the relationships between work adjustment and the educational factors years of school, elementary and junior high special class experiences?

3. What are the relationships between work adjustment and the vocational factors previous work experience, present work experience, mumber of jobs, nature of present work environment, and present income?

4. What are the relationships between work adjustment and the familial factors number of siblings, father's education, mother's education, parents' marriage status, parental support, and family economic status?

5. What is the best set of factors to predict general work adjustment?

METHOD

Subjects

A group of 116 subjects from two vocational training programs for the mentally retarded was selected for this study. These two vocational programs were operated in St. Coletta's Center for Special Education and Vocational Training Center for retardates in Taiwan, the Republic of China. People from these two training programs were considered one group for the following reasons: (1) both programs utilized sheltered workshop and supportive employment as their training approaches; (2) the clients in both programs were moderately or severely mentally reaarded.

The 116 subjects, 94 males and 22 females, had a mean age of 24.71 years with a standard deviation of 8.88. The average length of time they spent in present programs was 2.85 years with a standard deviation of 2.44, whereas the average time of their previous work

experiences was .93 month with a standard deviation of 4.79.

Instruments

Work Adjustment Rating Form

The Work Adjustment Rating Form (WARF) was selected as the investigative instrument to be used in the study to assess the variable of work adjustment. This is a "Guttman-type" scale. It is composed of 40 statements on which the subject's work adjustment is evaluated. According to Bitter and Bolanovich (1970), "the WARF is a rating scale constructed primarily for use by counselors and workshop foremen working with the mentally retarded to assess areas of workshop strengths for purposes of training and to assess workshop adjustment progress" (p. 616). More specifically, the WARF consists of eight subscales, each evaluating one variable and having five items. The subscales included are: (1) Amount of Supervision Required (ASR), (2) Realism of Job Goals (RJG), (3) Teamwork (TEA), (4) Acceptance of Rules/Authority (AOR), (5) Work Tolerance (WOT), (6) Perseverance in Work (PIW), (7) Extent Trainee Seeks Assistance (ETSA), (8) Importance Attached to Job Training (IAJT).

Bitter and Bolanovich (1970) reported that the interrater reliability (Pearson coefficients) for WARF ratings after 3 weeks were from .67 to .98. They also indicated that the correlations (biserial) of WARF ratings with job success were from .43 to 1.23, and with pooled judgment were from .47 to 1.00.

For this study, the WARF was translated into Chinese. The initial translated form of WARF was evaluated and critiqued by professionals in the field for revision purposes. The revised WARF was used in this study. The intrarater reliability (Pearson coefficient) of the Chinese version of WARF ratings for a sample of 34 mentally retarded trainees after 2 weeks was found to be .51 ($p = .001$). The split-half reliability coefficient using the odd/even method for 116 mentally retarded trainees was .75. Using the Spearman-Brown formula, the reliability coefficient

of the total scale was estimated to be .86. The correlation (Pearson coefficient) of WARF rating with pooled job adjustment judgment of the same raters after 3 weeks was .58 (n = 34, p<.001). Based on a group of 116 mentally retarded trainees, the intercorrelations of the Chinese version of WARF are obtained and shown in Table 1. Inspection of Table 1 indicates that all intercorrelations of the WARF are statistically significant. It reveals that even though these eight subscales have separate functions they still assess the common charateristic-work adjustment.

Table 1

Intercorrelations of the WARF Subscales (N = 116)

Subscales	ASR	RJG	TEA	AOR	WOT	PIW	ETSA
ASR							
RJG	.41***						
TEA	.68***	.38***					
AOR	.64***	.31***	.65***				
WOT	.54***	.32***	.58***	.64***			
PIW	.70***	.42***	.66***	.72***	.63***		
ETSA	.43***	.26**	.39***	.47***	.50***	.37***	
IAJT	.35***	.40***	.42***	.36***	.35***	.39***	.26**

** p<.01

***p<.001

Demographic Information Sheet

In order to collect the needed background data of the subjects, the Demographic information Sheet (DIS) was made by the researcher. Included in the DIS are questions related to the personal, educational, vocational, and familial factors of the subjects.

Data Collection

The teachers of the subjects were invited to assist in the process of data collection. The work adjustment of the subject was rated by his/her teacher using the Chinese form of the Work Adjustment Rating Form. The same teacher was also responsible to complete the Demographic Information Sheet for the subject of whom he/she evaluated the work adjustment. The collected data were statistically treated through the assistance of the Computer Center at the National Taiwan College of Education.

Analysis of the Data

The statistical techniques used by the researcher were the Pearson's product-moment correlation and multiple regression analysis. For investigating the research questions of the study, the Pearson's product-moment correlations were calculated between work adjustment and all the demographic factors selected and tested for statistical significance. The forward selection method of multiple regression was applied to those demographic factors which had statistically significant correlations with the total score of Work Adjustment Rating Form in order to determine the best set of factors in predicting the general work adjustment (Pedhazur, 1982). The alpha level of confidence was set at .05 for all tests of statistical significance. Levels of .01 and .001 were also noted.

Description of the Variables

1. Work adjustment: The total and subscale scores of the Chinese version of the Work Adjustment Rating Form were used as total and dimensional work adjustment indicators. The total work adjustment was defined as general work adjustment in this study. The possible maximum score range is between 0 to 40 for the total scale and 0 to 5 for each subscale.

2. Age: The chronological age of subjects was recorded in months.

3. Sex: Male or female subject was indicated by the rating of 1 =

male; 2 = female.

4. Handicapping condition: The handicapping condition of the subjects was indicated by the rating of 1 = no other handicapping condition; 2 = have other handicapping condition.

5. Height: The height of subjects is recorded in centimeters.

6. Weight: The weight of subjects is recorded in kilograms.

7. Years of school: The years of school of subjects were indicated by the rating of 1 = senior high; 2 = junior high; 3 = elementary; 4 = no schooling.

8. Elementary special class experience: Indicated by the rating of 1 = yes; 2 = no.

9. Junior high special class experience: Indicated by the rating of 1 = yes; 2 = no.

10. Previous work experience: The previous work experience of subjects was recorded in months.

11. Present work experience: The present work experience of subjects is indicated in months.

12. Number of jobs: This was indicated by a subject's actual number of jobs experienced.

13. Nature of present work environment: Indicated by the rating of 1 = sheltered work environment; 2 = competitive work environment.

14. Present income: The present income of subjects was indicated by the rating of 1 = under 1,000 NT$; 2 = 1,000-2,000 NT$; 3 = 2,000-3,000 NT$; 4 = 3,000-4,000 NT$; 5 = 4,000-5,000 NT$; 6 = 5,000-6,000 NT$; 7 = above 6,000 NT$.

15. Number of siblings: This was indicated by a subject's actual number of siblings.

16. Father's education: Indicated by the rating of 1 = elementary; 2 = junior high; 3 = senior high; 4 = junior college; 5 = college; 6 = graduate school.

17. mother's education: This was coded by the rating of 1 =

elementary; 2 = junior high; 3 = senior high; 4 = junior college; 5 = college; 6 = graduate school.

18. Parents' marriage status: This was indicate by the rating of 1 = normal; 2 = separate; 3 = divorce.

19. Parental support: This was coded by the rating of 1 = much support; 2 = support; 3 = no support.

20. Family economic status: This was indicated by the rating of 1 = very good; 2 = good; 3 = bad.

RESULTS AND DISCUSSION

The results of the study are presented and discussed in this section. It was intended through this study to investigate the relationships between work adjustment and several selected demographic factors among 116 mentally retarded subjects of two vocational training programs in Taiwan, the Republic of china. Since the collected data of some demographic factors were incomplete, the statistical analyses were only based on the information obtained. The descriptive statistics of all variables used were depicted by means and standard deviations and are shown in Tables 2 and 3. The relationships between work adjustment and the personal, educational, vocational, and familial factors are presented and discussed as follows.

Table 2

Means and Standard Deviations of the WARF (N = 116)

Variables	Means	Standard Deviations
WARF Subscales		
ASR	2.32	.85
RJG	2.36	.80
TEA	2.89	.91
AOR	1.34	1.04
WOT	2.47	1.24
PIW	3.21	.87
ETSA	2.42	.96
IAJT	2.24	1.06
Total WARF	19.25	3.41

Table 3
Means and Standard Deviations of the Demographic Variables

Variables	N	Means	Stardard Deviations
Personal Factors			
Age	116	296.56	106.61
Sex	116	1.22	.53
Handicapping Condition	97	1.65	.48
Height	114	159.10	10.81
Weight	114	51.52	10.09
Educational Factors			
Years of School	104	3.11	.75
Elementary Sp. Class Exper.	113	1.64	.48
Junior High Sp. Class Exper.	113	1.86	.35
Vocational Factors			
Previous Work Experience	116	.93	4.79
Present Work Experience	116	34.20	29.24
Number of Jobs	70	2.20	1.30
Nature of Present Work Envir.	108	1.18	.38
Present Income	92	2.09	2.18
Familial Factors			
Number of Siblings	108	2.90	1.62
Father's Education	75	2.27	1.40
Mother's Education	72	1.64	1.14
Parents' Marriage Status	92	1.15	.49
Parent Support	106	1.53	.52
Family Economic Status	109	2.17	.45

Relationships between Work Adjustment and the Personal Factors

The personal factors selected for relating to work adjustment were age, sex, handicapping condition, height, and weight. In Table 4 the

correlations between work adjustment and the personal factors are displayed.

Table 4

Correlations of Work Adjustment and the Personal Factors (N shown in Parentheses)

Variables	Age	Sex	Handicapping Condition	Height	Weight
WARF Subscales					
ASR	.03 (116)	-.14 (116)	-.34*** (97)	.17* (114)	-.01 (114)
RJG	.08 (116)	-.08 (116)	.01 (97)	.05 (114)	.09 (114)
TEA	.00 (116)	-.02 (116)	-.10 (97)	.12 (114)	.02 (114)
AOR	.18* (116)	-.11 (116)	-.13 (97)	.15 (114)	-.08 (114)
WOT	.06 (116)	-.21* (116)	-.16 (97)	.14 (114)	.07 (114)
PIW	.14 (116)	-.12 (116)	-.14 (97)	.06 (114)	-.07 (114)
ETSA	.12 (116)	.05 (116)	-.03 (97)	-.02 (114)	-.18* (114)
IAJT	-.09 (116)	.02 (116)	-.20* (97)	.01 (114)	.06 (114)
Total WARF	.10 (116)	-.11 (116)	-.18* (97)	.12 (114)	-.03 (114)

*p<.05
***p<.001

Inspection of Table 4 indicates that only seven correlation coefficients were statistically significant. The variable of age indicated a positive correlation (.18) with acceptance of rules/authority. This was statistically significant at the .05 level. It means that subjects who were older were more likely to accept rules/authority. The result seems to partially support the studies of Kolstoe (1961), and Malgady and Barcher (1980).

The variable of sex revealed a negative correlation (-.21) with work tolerance. This was statistically significant at the .05 level It appears

that male subjects were better than females in work tolerance. This finding seems to partially support the study of Malgady and Barcher (1980).

The correlation coefficients between handicapping condition and the variables amount of supervision required, importance attached to job training, and total work adjustment were -.34 ($p<.001$), -.20 ($p<.05$), and -.18 ($p<.05$), respectively. They were all statistically significant. These results indicate the following phenomena: (1) the less handicapping conditions a subject had, the less amount of supervision he/she might require; (2) job training was more important to subjects who had less handicapping conditions than to those who had more handicaps; (3) the less the handicaps of the individuals, the more favorable they had in their work adjustment. These findings appear to be on the same side of Michal-Smith (1950) and Rautman (1949).

The factor of height had a positive significant relationship (.17) to amount of supervision required. This was statistically significant at the .05 level. This relationship indicated that the taller the height of the mentally retarded, the less they required in amount of supervision.

The factor of weight was found to have a negative and statistically significant relationship (-.18, $p<.05$) to extent of assistance seeking. The heavier the weight of the retarded persons, the more they needed to seek assistance. It appears that a weight-control program may be needed for those retarded persons who are overweight.

From the above results and discussion, we could find that the personal factors age, sex, height, and weight may affect some dimensions of work adjustment of the mentally retarded. The factor of handicapping condition may bear more influences on work adjustment. In summary, the personal factors selected in this study seem to have limited use in predicting work adjustment of the retarded persons.

Relationships between Work Adjustment and the Educational Factors

The educational factors selected for the study were years of school, elementary and junior high special class experiences. The correlation coefficients between work adjustment and all educational factors are presented in Table 5.

Table 5

Correlations of Work Adjustment and the Educational Factors (N Shown in Parentheses)

Variables	Years of School	Elementary Special Class Experience	Junior High Special Class Experience
WARF Subscales			
ASR	-.21* (104)	-.08 (113)	-.22* (113)
RJG	-.36*** (104)	-.24** (113)	-.33*** (113)
TEA	-.28** (104)	-.13 (113)	-.18* (113)
AOR	-.28** (104)	-.15 (113)	-.05 (113)
WOT	-.19* (104)	-.19* (113)	-.19* (113)
PIW	-.11 (104)	-.10 (113)	-.12 (113)
ETSA	-.17* (104)	-.03 (113)	-.06 (113)
IAJT	-.13 (104)	-.17* (113)	-.03 (113)
Total WARF	-.28** (104)	-.17* (113)	-.19* (113)

* P<.05 ** p<.01 *** p<.001

Inspection of Table 5 reveals that there are 16 corrslation coefficients which are statistically significant. The factor years of school correlated significantly with the variables amount of supervision required (-.21, p<.05), realism of job goals (-.36, p<.001), teamwork (-.28, p<.01), acceptance of rules/authority (-.28,

p<.01), work tolerance (-.19, p<.05), extent trainee seeks assistance (-.17, p<.05), and total work adjustment (-.28, p<.01). These findings may indicate that a mentally retarded individual who has more years of school experiences tends to: (1) need less amount of supervision; (2) have more realistic job goals; (3) have better cooperation with others; (4) be more likely to accept rules/authority; (5) have better work tolerance; (6) need less assistance; and (7) have more favorable adjustment in most of the work situations. These results seem to contradict the findings of Greene (1945), Shafter (1957), Cowan and Goldman (1959) and Dietrich (1978). The findings of the study should have positive implications for the professionals working in the field of special education and rehabilitation.

The factor of elementary special class experience was found to have statistically significant correlations with the variables realism of job goals (-.24, p<.01), work tolerance (-.19, p<.05), importance attached to job training (-.17, p<.05), and total work adjustment (-.17, p<.05). The mentally retarded subjects who had elementary school special class experiences seemed to: (1) have more realistic job goals; (2) have better tolerance toward work; (3) benefit much more from vocational training than those who had no this kind of experiences. In addition, graduates from elementary school special classes for the mentally retarded may have more potentials to adjust favorably in work situations.

The factor of junior high special class experience had statistically significant relationships to the variables amount of supervision required (-.22, p<.05), realism of job goals (-.33, p<.001), teamwork (-.18, p<.05), work tolerance (-.19, p<.05), and total work adjustment (-.19, p<.05). The results reveal that junior high school special class experience may have some contributions to: (1) reduce supervision required; (2) have more realistic job goals; (3) develop teamwork

spirit; (4) have better work tolerance; (5) adjust more favorably in most of the job settings.

Special class experience, either in elementary or junior high school, appears to be a positive factor associated with work adjustment of mentally retarded individuals. Even though the results of this study may be contrary to the findings of Kolstoe (1961), Kolstoe still advocated that those retardates who spent a longer time in special classes were somewhat more successful in securing employment than those who had had no special class experience. Thus, the possible contributions of special class for the mentally retarded should deserve our attention.

Relationships between Work Adjustment and the Vocational Factors

The vocational factors investigated in the study were previous work experience, present work experience, number of jobs, nature of present work environment, and present income. In Table 6 the correlation coefficients between work adjustment and the vocational factors are presented.

Inspection of Table 6 shows that 14 correlation coefficients between work adjustment and the vocational factors were statistically significant. The factor of previous work experience failed to have any statistically significant relationship to the variables of work adjustment. The factor of present work experience indicated a negative correlation(-.16) with the variable importance attached to job training. This was statistically significant at the .05 level. This relationship revealed that persons with less experience in present work had more need in job training. The factor number of jobs was found to have a statistically significant correlation(-.31, $p<.01$) with the variable of extent trainee seeks assistance. This relationship indicated that individuals with lower number of jobs they had

Table 6

Correlations of Work Adjustment and the Vocational Factors (N Shown in Parentheses)

Variables	Previous Work Experi.	Present Work Experi.	Number of Jobs	Nature of Present Work Environ.	Present Income
WARF Subscales					
ASR	-.14 (116)	.09 (116)	.08 (70)	.12 (108)	.26** (92)
RJG	.13 (116)	.03 (116)	.20 (70)	.48*** (108)	.53*** (92)
TEA	-.05 (116)	-.04 (116)	-.04 (70)	.13 (108)	.28** (92)
AOR	-.13 (116)	-.02 (116)	-.10 (70)	.15 (108)	.25** (92)
WOT	-.01 (116)	.13 (116)	.00 (70)	.20* (108)	.28** (92)
PIW	.07 (116)	.05 (116)	.09 (70)	.08 (108)	.20* (92)
ETSA	.02 (116)	.12 (116)	-.31** (70)	.02 (108)	.11 (92)
IAJT	.13 (116)	-.16* (116)	-.09 (70)	.39*** (108)	.45*** (92)
Total WARF	-.00 (116)	.05 (116)	-.03 (70)	.24** (108)	.39*** (92)

* $p<.05$
** $p<.01$
*** $p<.001$

experienced had less need to seek assistance. It implies that persons who have favorable work adjustment may not need to explore too many jobs for vocational choice.

The factor nature of present work environment was found to have statistically significant correlations with the variables realism of job goals (.48, $p<.001$), work tolerance (.20, $p<.05$), importance attached to job training (.39, $p<.001$), and total work adjustment (.24, $p<.01$). These results revealed that individuals working in the open employment tend to: (1) have more realistic job goals; (2) have

better work tolerance; (3) benefit more from job training; (4) have more potentials to adjust well in work situations. In essence, it is easy to understand that the kind of work environment to which a mentally retarded client is assigned mostly depends upon his/her level of work adjustment.

The factor of present income had statistically significant relationships to the variables amount of spervision required (.26, $p<.01$), realism of job goals (.56, $p<.001$), teamwork (.28, $p<.01$), acceptance of rules/authority (.25, $p<.01$), work tolerance (.28, $p<.01$), perseverance in work (.20, $p<.05$), importance attached to job training (.45, $p<.001$), and total work adjustment (.39, $p<.001$). These findings indicated that persons with higher income may also: (1) need less supervision; (2) have more realistic job goals; (3) have better teamwork; (4) be more likely to accept rules; (5) have better work tolerance; (6) have better perseverance in work; (7) benefit more from job training; and (8) have more potentials to adjust favorably in job settings. From these results we could understand that present income seems to correlate closely with work adjustment. Furthermore, a person's income may be somewhat determined by his/her level of work adjustment.

Relationships between Work Adjustment and the Familial Factors

The familial factors included in the study were number of siblings, father's education, mother's education, parents' marriage status, parental support, and family economic status. The correlation coefficients between work adjustment and the familial factors are displayed in Table 7.

Inspection of Table 7 indicates that eight correlation coefficients between work adjustment and the familial factors were statistically significant. The factor number of siblings was found to have statistically significant correlations with realism of job goals

(-.18, p<.05) and importance attached to job training (-.19, p<.05). The results imply that a mentally retarded subject who has less siblings may tend to: (1) have more realistic job goals and (2) benefit more from job training. An individual's sibling number may have some effects on his/her own career development.

Table 7

Correlations of Work Adjustment and the Familial Factors (N Shown in Parentheses)

Variables	No. of Siblings	Father's Ed.	Mother's Ed.	Parents' Marriage Status	Parent Support	Family Econo. Status
WARF Subscales						
ASR	-.04 (108)	-.29** (76)	-.19 (73)	.03 (93)	-.13 (106)	.12 (109)
RJG	-.18* (108)	-.03 (76)	-.14 (73)	.11 (93)	-.06 (106)	.21* (109)
TEA	.08 (108)	-.16 (76)	-.19 (73)	-.06 (93)	-.16* (106)	-.00 (109)
AOR	-.03 (108)	-.12 (76)	-.09 (73)	.06 (93)	-.24** (106)	.02 (109)
WOT	.04 (108)	-.13 (76)	-.11 (73)	.15 (93)	-.13 (106)	-.00 (109)
PIW	.06 (108)	-.07 (76)	-.09 (73)	.08 (93)	-.09 (106)	.00 (109)
ETSA	-.03 (108)	-.10 (76)	-.11 (73)	.21* (93)	-.14 (106)	.12 (109)
IAJT	-.19* (108)	-.10 (76)	-.13 (73)	-.08 (93)	-.03 (106)	-.03 (109)
Total WARF	-.03 (108)	-.16 (76)	-.17 (73)	.10 (93)	-.17* (106)	.07 (109)

*p<.05
**p<.01

The factor of father's education had a negative significant relationship (-.29) to the variable amount of supervision required. This was statistically significant at the .01 level. It indicated that

the lower the father's education of the individuals. the less amount of spervision they required in work settings. The possible explanations for this result may be that even though the father's education of an individual is low, he/she may have more opportunities to learn how to live and work independently. The more independent the individual, the less supervision he/she may need. On the other hand, the factor of mother's education was found to have no statistically significant relationship to the variables of work adjustment. However, the factor parents' marriage status did have a positive correlation (.21) with the variable of extent trainee seeks assistance. This was statistically significant at the .05 level. It reveals that the more abnormal the parents' marriage status of the subjects, the less they need assistance The possible reason is that family disorganization may force a person to learn to be independent and he/she may become more capable in vocational matters.

The factor of parent support had statistically significant relationships to the variables teamwork (-.16, $p<.05$), acceptance of rules/authority (-.24, $p<.01$), and total work adjustment (-.17, $p<.05$). These findings reveal that the individuals having more parent support may: (1) have better teamwork; (2) be more likely to accept rules; (3) have more potentials to adjust favorably in work settings. The results of this study are consistent with the findings of other researchers (Neff, 1959; Brolin and Wright, 1971).

The factor of family economic status was found to have a statistically significant correlation (.21) with the variable realism of job goals. This was significant at the .05 level. The finding indicates that the lower the family economic status of the individuals, the more realistic they were in their job goals. The finding of this study may partially support the results of Abel (1940) and Greene (1945).

In this study, we could find that the lower levels of facther's education and family economic status and parents' marriage problems

may not necessarily have negative effects on work adjustment of an individual. In other words, the disadvantaged family conditions could become variables which contribute to the favorable work adjustment of persons with mental retardation.

Determination of the Best Set of Predictors for Work Adjustment

In view of Tables 4, 5, 6, and 7, the factors handicapping condition, years of school, elementary special class experience, junior high special class experience, nature of present work environment, present income, and parent support, respectively, was found to have a statistically significant relationship to general (total) work adjustment. These seven demographic factors were included in the forward selection of multiple regression analysis to determine their contributions to the prediction of general work adjustment. The summary of multiple regression analysis was presented in Table 8.

In the full model with the seven demographic factors included, an R-Square of .2442 was obtained. This value was statistically significant at the .05 level. This means that the seven demographic factors accounted for 24.42% of the variance of the criterion, general work adjustment. In other words, approximately 24% of the variability in the total work adjustment score can be explained by the predictor variables when combined.

Of these seven demographic factors, only years of school, present income, and nature of present work environment made statistically significant contributions to the full model. They accounted for 20.29% of the variance of the criterion, general work adjustment. Other four factors including elementary special class experience, parent support, handicapping condition and junior high special class experience when combined, can only explain about 4% of the variance of the total work adjustment score. Thus, the set of

variables years of school, present income, and nature of present work environment might emerge as the best combination of factors to predict general work adjustment in this study.

Table 8

Summary of Multiple Regression Analysis

Variables	R	R^2	R^2 Change	Beta	F
Years of School	.2918	.0851	.0851	-.2661	2.95*
Present Income	.3551	.1261	.0409	.7894	5.74**
Nature of Present Work Envi.	.4504	.2029	.0768	-.6907	4.85**
Elementary Special Class Exp.	.4660	.2172	.0143	.1785	1.60
Parent Support	.4864	.2365	.0194	-.1796	1.72
Handicap. Condition	.4938	.2438	.0073	.0918	.54
Junior High Sp. Cls. Exp.	.4941	.2442	.0004	.0220	.03

R^2 of Full Model = .2442

df = 7, 55

F = 2.54*

*p<.05

**p<.01

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The data on work adjustment and demographic information of 116 mentally retarded subjects were collected and statistically analysed in the study. From the section of results and discussion, several conclusions could be derived as follows:

1. The factors handicapping condition, years of school,

elementary special class experience, junior high special class experience, nature of present work environment, present income, and parent support, respectively, revealed a significant relationship to the variable of general work adjustment.

2. The factors handicapping condition, height, years of school, junior high special class experience, present income, and father's education, respectively, significantly correlated with the variable amount of supervision required.

3. The factors years of school, elementary special class experience, junior high special class experience, nature of present work environment, present income, number of siblings, and family economic status, respectively, had a significant relationship to the variable realism of job goals.

4. The factors years of school, junior high special class experience, present income, and parent support, respectively, significantly correlated with the variable of teamwork.

5. The factors age, years of school, present income, and parent support, respectively, significantly correlated with the variable acceptance of rules/authority.

6. The factors sex, years of school, elementary special class experience, junior high special class experience, nature of present work environment, and present income, respectively, had a singificant relationship to the variable of work tolerance.

7. A significant correlation was found between the factor of present income and the variable perseverance in work.

8. The factors weight, years of school, number of jobs, and parents' marriage status, respectively, significantly correlated with the variable of extent trainee seeks assistance.

9. The factors handicapping condition, elementary special class experience, present work experience, nature of present work environment, present income, and number of siblings, respectively, had a

significant relationship to the variable importance attached to job training.

10. The factors of previous work experience and mother's education failed to have any statistically significant relationship to work adjustment.

11. The best set of factors to predict general work adjustment of the mentally retarded in this study was the combination of the variables years of school, present income, and nature of present work environment.

Recommendations

Based on the findings and the possible limitations of this study, the following recommendations are made for vocational programming and future research.

1. Since the factor of handicapping condition contributes significantly to general work adjustment, it is reasonable to suggest that more guidance should be given to those mentally retarded individuals who have other handicapping condition(s) in order to assist them in work adjustment.

2. Due to the usefulness of all the educational factors years of school, elementary and junior high special class experiences in predicting general work adjustment, more years of special education provided to the mentally retarded should be encouraged.

3. Since both the vocational factors nature of present work environment and present income appear to be important determinants of general work adjustment, the prediction of work adjustment of mentally retarded clients from both factors should be realistic and meaningful.

4. Because the familial factor of parent support has a significant relationship to general work adjustment, parent education and counseling should be encouraged to derive more parent support in

order to aid the mentally retarded in work adjustment.

5. The present study should be considered exploratory due to the incompletion of data collected. Further research should be undertaken including a bigger sample of subjects in order to augment the external validity of the study.

6. Future research is needed to identify other factors which may be predictors of work adjustment; i.e., social competence, work motivation, vocational training, emotional stability, work habits, vocational skills, academic skills and vocational maturity.

7. Research using those subjects who are from other vocational programs should be undertaken in the future.

8. Research should be undertaken using different instruments that measure work adjustment in order to determine the concurrent validity of the Chinese version of Work Adjustment Rating Form.

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智能不足者工作適應相關因素之研究

何 華 國

摘 要

本研究之目的，乃在探討智能不足者的工作適應與其個人、教育、職業、及家庭等因素之關係。

本研究之對象，來自中華民國台灣的兩個職業訓練方案當中的 116 名智能不足受訓者。研究對象的工作適應與背景因素資料，係由研究對象的教師使用工作適應評量表與學生基本資料問卷收集得來。所選用的資料分析的方法是皮爾遜積差相關與多元回歸分析。

從本研究所獲致的結論如下：

1.障礙狀況、學歷、小學啓智班的經驗、國中啓智班的經驗、目前工作環境的性質、目前的薪資、與家長的支持程度，各顯示與一般的工作適應有顯著的關係。

2.障礙狀況、身高、學歷、國中啓智班的經驗、目前的薪資、與父親教育程度、各與督導的要求這一變項有顯著的相關。

3.學歷、小學啓智班的經驗、國中啓智班的經驗、目前工作環境的性質、目前的薪資、兄弟姊妹人數、與家庭經濟狀況、各與職業目標的實際性這一變項有顯著的關係。

4.學歷、國中啓智班的經驗、目前的薪資、與家庭的支持程度、各與團隊的合作這一變項有顯著的相關。

5.年齡、學歷、目前的薪資、與家長的支持程度、各與規則的遵守這一變項有顯著的相關。

6.性別、學歷、小學啓智班的經驗、國中啓智班的經驗、目前工作環境的性質、與目前

的薪資、各與工作的容受力這一變項有顯著的關係。

7.目前的薪資這一因素與工作的毅力這一變項之間被發現具有顯著的相關。

8.體重、學歷、已從事工作的數目、與父母親婚姻狀況、各與協助的需求這一變項具有顯著的相關。

9.障礙狀況、小學啓智班的經驗、目前的工作經驗、目前工作環境的性質、目前的薪資、及兄弟姊妹人數、各與職業訓練的重要性這一變項有顯著的關係。

10.過去的工作經驗及母親教育程度皆與工作適應在統計上並無顯著的關係。

11.在本研究中，用以預測智能不足者的一般工作適應最好的因素組合，是學歷、目前的薪資、與目前工作環境的性質三個變項的結合。